

SCAEVOLA GAUDICHAUDIANA & S. MOLLIS

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The December 16, 1966 copy of "Evolution" reached the north shore of the Island of Oahu recently, and in it Dr. George W. Gillett (pp. 506-516) discusses in detail, and carefully illustrates, "Hybridization and its Taxonomic Implications in Scaevola Gaudichaudiana Complex of the Hawaiian Islands." As our own publications with this complex began in June 30, 1932 and were conducted apparently independently of Dr. Gillett's researches, we herewith review them to show our early findings.

The two species involved are S. gaudichaudiana Cham. and S. mollis Hook. & Arn. Of the former we (Flora Hawaiiensis, Fam. 340, Dec. 27, 1957.) recognize the species itself as occurring on Oahu; with forma kauaiensis Skotts. as an endemic to the Island of Kauai; with forma leucocarpa Skotts. as an endemic to Oahu "and occasionally intergrading with" the black-fruited species itself; and with variety stenolithos Skotts. endemic to the Waianae Range of Oahu. The Molokai and Lanai plants, following the monographer Skottsberg (Bishop Mus. Bull. 43: 17-23, 1927.), we recognize as S. chamissoniana Gaud., sensu stricto and two varieties. As these hardly belong to our complex, we omit them here.

Regarding S. mollis, Degener & Greenwell (Fl. Haw., Nov. 1, 1947.) recognized S. mollis s.s. as occurring only on the Koolau Range of Oahu; while the variety albiflora Deg. & Greenwell is limited to the Waianae Range of the same island. Forma triloba St. John is an aberrant form known from a single plant discovered in 1939 in the Koolau Range and never observed again.

Scaevola kahanae Degener (ibid. June 14, 1933.) grew along the Kahana Ditch Trail, Koolau Range, Oahu. Though the author of this binomial at the time wrote that "it probably shows certain hybrid relationships to S. Gaudichaudiana, and S. mollis Hook. & Arn.," we are now convinced it is merely a hybrid exhibiting chiefly S. gaudichaudiana features. We join with Gillett (p. 515) that this is an example of contributing a "plethora of names" to our flora and that the specimens should have been designated simply as "S. gaudichaudiana X S. mollis."

As the Flora Hawaiiensis, Books 1 - 7, is being privately printed in a limited edition of 3,000 or less copies and is evidently not known to many writers and readers, we herewith copy pertinent statements regarding the "complex" printed Dec. 27, 1957. These verify, in many instances, Dr. Gillett's findings of about a decade later. Regarding S. gaudichaudiana s. s., we read:

"An ubiquitous, aggressive plant throughout the Koolau Range of Oahu, growing in open forests and glades above about 700 feet elevation with the far less common S. mollis Hook. & Arn. These two species repeatedly hybridize, some of the resulting crosses tending to maintain their characteristics for several generations. Others seem to split up into a diversity of shapes, or cross back into S. gaudichaudiana or S. mollis. The resulting swarm of hybrids has caused considerable nomenclatural confusion. For example, S. procera Hillebr., is listed as occurring in Oahu in error by Skottsberg (Bull. B. P. Bishop Mus. 43: 33. 1927.), he basing his findings upon Forbes No. 2215.0., 'Oahu, Wahiawa, head gate trail,' 1915. This plant, as well as Forbes Nos. 2211,0 and 2213,0, from the same region; and Hosaka No. 958 from Kipapa Gulch, 1933, likewise identified by Skottsberg as S. procera, are all hybrids in which S. mollis characters prevail except for a slightly longer inflorescence and less tomentum. S. procera, hence, is unknown from Oahu. S. cerasifolia f. tomentosa Skotts. (Acta Hort. Gothoburg. 15: 501. 1944.), hardly worthy a name, is merely another hybrid, this time showing still closer affinity with S. mollis. S. cerasifolia Skotts. (Bull. B. P. Bishop Mus. 43: 36. 1927.), typified by a plant from Pauoa Flats and said to be found also on Konahuanui and Punaluu, on the other hand, are hybrids showing close affinity with S. gaudichaudiana. S. kahanae Degener (Fl. Haw. 6/14/33), almost synonymous with Skottsberg's S. cerasifolia and therefore hardly worth naming, is perhaps still closer; while Rock & Shaw, without number, collected on Konahuanui in Sept. 1912, scarcely differs from true S. gaudichaudiana except for purple flowers. S. gaudichaudiana s.s., also occurs in the Waianae Range with the var. stenolithos Skotts., mentioned below:"

Regarding S. gaudichaudiana var. stenolithos we wrote Dec. 27, 1957: "Known only from the Waianae Range of Oahu; plants labeled as this variety but coming from other islands, such as West Maui, we find are misidentified. This variety or possibly the species itself apparently hybridizes with S. mollis var. albiflora of the same mountain range to produce plants like Wilbur 597 (in error labeled as the Kauai or Molokai S. procera var. pseudomollis Skotts., in the Bishop Museum by an unknown hand), "Waianae Range. Slope leading down into South Palawai Gulch. More or less N. side. 3 m. shrub. Flowers white, c. 2700 ft. 27, March 1948." The Wilbur specimen is mainly S. gaudichaudiana var. stenolithos with some influx of S. mollis var. albiflora; thus the slightly larger leaves are coarsely glabrate especially beneath, the twigs are pubescent, and the flower buds and leaf buds are pubescent as in S. mollis var. albiflora. The inflorescence is not constricted as in the latter variety, nor longer than the leaves as in S. gaudichaudiana var. stenolithos. It is about two-thirds the length of the

leaves. The corolla tube is hairy, almost as much so as Webster 4450, evidently collected with Wilbur and perhaps coming from the very same shrub."

It is a pity Dr. Gillett failed to note our work on the Scaevola gaudichaudiana complex - among the twenty-six papers cited in his literature ours are eloquently omitted. Had he done so he would have saved time and funds. That his study independently came to essentially the same conclusion as published in the Flora Hawaiensis decades before is no surprise.

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#### ADDENDA ON PENSTEMON

Ralph W. Bennett

In two recent issues of *Phytologia*, varieties of *Penstemon hirsutus* Willd. were published without citation of herbarium material. To complete the descriptions, the following information should be added:

*P. hirsutus* Willd. var. *pygmaeus* R. W. Bennett,  
*Phytologia* 9: 58. 1963.  
TYPE COLLECTION: R. W. Bennett s.n. (holotype US  
2503557), cultivated in Arlington, Virginia, May,  
1966.

*P. hirsutus* Willd. var. *minus* R. W. Bennett,  
*Phytologia* 12: 477. 1966.  
TYPE COLLECTION: R. W. Bennett s.n. (holotype US  
2503556), cultivated in Arlington, Virginia, May,  
1967.